

REMARKS**INTRODUCTION**

In accordance with the foregoing, claims 9 and 16 have been amended, and new claims 23-25 have been added. No new matter has been submitted.

Claims 6 and 7 have been allowed, and claims 10, 20 and 22 have been indicated as including allowable subject matter. The Office Action Summary indicated that claim 10 was allowed, but claim 10 actually depends from rejected claim 9.

Claims 6, 7, 9, 10 and 16-25 are pending and under consideration.

OBJECTION TO THE SPECIFICATION

In accordance with the above amendment to the specification, withdrawal of this objection is respectfully requested.

REJECTION UNDER 35 USC 103

Claims 9 stands rejected under 35 USC § 103 as being obvious over Igarashi et al., U.S. Patent No. 5,805,539, in view of Childers et al., U.S. Patent No. 5,499,233. This rejection is respectfully traversed.

The Office Action has indicated that it would have been obvious to modify Igarashi et al. to include the carriage of Childers et al. Applicants respectfully disagree.

Igarashi et al. sets forth a mini-disc with an improved file structure to permit sector recording of data, rather than the previous cluster sized recording. Igarashi et al. does discuss that there is a track based write protection, where each track can include a mode identifier indicating whether that track can be overwritten. See FIG. 3 of Igarashi et al., Management Table Parts, and col. 6, lines 32-39.

The Office Action has indicated that Igarashi et al. discloses all the claimed features except for the previously claimed:

"determining whether the state of the recording medium matches a write protection state of a write inhibit hole of a case or cartridge, wherein the recording medium is positioned, for write protection; and

preventing writing of the new data on the recording medium if the state of the recording medium or the state of the write inhibit hole is set to a write protection state."

Elements of these features have been incorporated, with differing scope and breadth, into new features of independent claim 9, as follows:

"checking a state of the recording medium provided by write protection information stored in an area of the recording medium other than the user data area, and a write protection state of a write inhibit hole of a case or cartridge positioning the recording medium therein; and

prohibiting writing of data on the recording medium based on the state of the recording medium and/or the state of the write inhibit hole being set to a write protection state."

The amendments to claim 9 similarly require checking the state of write protection information of the recording medium, and a write protection state of the case or cartridge. In addition, claim 9 further sets forth the prohibiting of the writing of data on the recording medium "based on the state of the recording medium and/or the state of the write inhibit hole being set to a write protection state." Thus, though the breadth and scope of claim 9 has been changed, claim 9 still requires this potential interaction between the state of write protection information of the recording medium and the write protection state of the case or cartridge.

Without acquiescing to the Office Action's conclusions of what Igarashi et al. does disclose, it is respectfully submitted that the Office Actions obviousness arguments of adding these identified deficient features are in error.

In particular, the Office Action sets forth that Childers et al. discloses the claimed case or carriage and that the case or carriage has a write inhibit hole for write protection.

The Office Action then indicates that Childers et al. discloses "determining whether the state of the recording medium matches a write protection state of a write inhibit hole of a case or cartridge, wherein the recording medium is positioned, for write protection; and preventing writing of the new data on the recording medium if the state of the recording medium or the state of the write inhibit hole is set to a write protection state," relying on the conventional optical carriage 700 with two write protect holes 724, illustrated in FIG. 7 in Childers et al..

From this disclosure of Childers et al., the Office Action concludes that it would have been obvious to modify Igarashi et al. to include the optical disc of Childers et al., and that the combination thereof would disclose the presently claimed invention.

However, as noted above, the write protection discussed in Igarashi et al. is a track or file based write protection, where the overwrite protection or copy protection is not based on a medium-wide basis but on a smaller segmented track-wide bases, with there being multiple tracks on the mini-disc. Thus, in Igarashi et al. there will be multiple, and preferably, many multiple track mode identifiers with corresponding information for the overwrite and/or copy protection of each individual track.

Conversely, the two write protect holes 724 of Childers et al. are each singularly directed to a different side of the magneto-optical disc carried in the carriage, i.e., the write protect holes there act in the normal manner of identifying only whether the disc is write protected or not write protected.

If the carriage of Childers et al. were modified into the improved mini-disc of Igarashi et al. the resultant combination would not have disclosed the aforementioned "determining whether the state of the recording medium matches a write protection state of a write inhibit hole of a case or cartridge, wherein the recording medium is positioned, for write protection; and preventing writing of the new data on the recording medium if the state of the recording medium or the state of the write inhibit hole is set to a write protection state." Similarly, the resultant combination also would not disclose the claimed "checking a state of the recording medium provided by write protection information stored in an area of the recording medium other than the user data area, and a write protection state of a write inhibit hole of a case or cartridge positioning the recording medium therein; and prohibiting writing of data on the recording medium based on the state of the recording medium and/or the state of the write inhibit hole being set to a write protection state."

If combined, the two write protection systems would not act as proffered in the Office Action. Rather, the mini-disc of Igarashi et al. would still operate on a track basis, with the only improvement being that the mini-disc would now be enclosed in a carriage and have write protection capabilities for the whole mini-disc based solely on the write protect holes of the carriage. There would not have been any need or desire to link the track based overwriting/copying protection of Igarashi et al. with the macro-based disc-wide write protection provided by the protect holes of the carriage. The two write protection systems are distinct and not compatible or interactive.

In addition, it is respectfully submitted that it would not have been obvious to modify Igarashi et al. to now have a disc-wide overwrite/erase protection system, such that a combination with the carriage of Childers et al. would then disclose the checking of the write protection state of the medium and that of the carriage or case. Other than the disclosure of the present application, there would not appear to be any need to modify Igarashi et al. The system therein would appear to work as desired. Even if Igarashi et al. were modified to include the carriage of Childers et al., only the present application could provide the motivation to further modify the combination to perform some type of write protection state determination of the whole mini-disc of Igarashi et al. and then compare that with the write protect holes of the carriage.

Conversely, it is respectfully submitted that if Igarashi et al. were modified to include the carriage of Childers et al., there would not have been any further need to modify Igarashi et al. to check the state of write protection information of the mini-disc, or even use a single track write/copy protection information, since the modified combination would have the write protection with the write protect holes in the carriage.

In addition to the above, the presently claimed invention sets forth the checking of the state of write protection information stored on the recording medium and checking the write protection state of the case or cartridge. Then, the prohibiting of writing of data on the recording medium is based on the checked state of the write protection information and the write protection state of the case or cartridge.

The need to check both the state of the write protection information and write protection state of the case or cartridge stems from a discovered problem with media, as discovered by the present inventors.

It was discovered that since some media can be taken out of their cases or cartridges, it was still necessary to permit the user to have write protection of data on the medium. As illustrated in Childers et al., the write protect holes indicate whether the medium is write protected or not. However, if the medium was taken out of the case or cartridge then there would not be any write protection for the medium.

Accordingly, applicants have incorporated a drive level logical write protection information into the medium, and using that stored write protection and the write protection state of the case or cartridge it can be determined whether to prohibit recording to the recording medium. It is also noted that Independent claim 9 further requires the checking of both the state of the write protection information on the recording medium and the write protection state of the case or cartridge.

Accordingly, this previous problem was overcome by introducing the write protection capability to the medium, such that if the case or cartridge were removed, the medium could still have a write protection capability.

As noted above, the cited references do not disclose or suggest this problem or this solution, which is why when the two references are considered, alone or in combination, they still would not disclose the checking of both the state of the write protection information of the medium and the write protection state of the case or cartridge, and then the prohibiting of the recording to the medium based on the same.

Thus, it is respectfully submitted that it would not have been obvious to modify Igarashi et al., in view of Childers et al., to disclose the presently claimed invention. In addition, it is further submitted that even if the two are combined the combination still would not disclose the presently claimed invention. Further, even if combined, only the present application could be relied upon to provide the motivation for further modifying the combination to disclose the presently claimed invention.

Claims 16-18 stand rejected under 35 USC § 103(a) as being obvious over Igarashi et al., in view of Kuroda et al., U.S. Patent No. 5,818,807. This rejection is respectfully traversed.

The Office Action has indicated that Igarashi et al. discloses all the claimed features except for the claimed recording information area having a Power Calibration Area (PCA), recited in claim 16, the claimed write protection information is stored in a field 0 of a Recording Management Data (RMD) area of the RMA area of the recording medium, recited in claim 17, and the write protection information is stored in a Byte Position (BP) 2 of the field 0 of the RMD area of the RMA area of the recording medium.

The Office Action would appear to only address the PCA feature and has not addressed the features of claims 17 and 18. Therefore, it is respectfully requested that these rejections be withdrawn as neither Igarashi et al. nor Kuroda et al. disclose or suggest the particular Byte Position (BP) 2 or the field 0 of the RMD area, alone or in combination. Though Kuroda et al. discusses the RMD, there is not discussion or suggestion of particular fields or Byte Positions for write protection information to be stored therein.

As noted above, Igarashi et al. is directed to a particular data format for a magneto-optical mini-disc. Conversely, the discussion in Kuroda et al. is related to DVD data structures, and in particular a data structure of a PCA in the DVD disc. As illustrated in FIG. 10, the PCA is at the edge of the disc. The PCA is used for power calibration for reading data from the DVD disc and writing data to the DVD disc, and is thus one of the first areas of the disc.

The Office Action has argued that it would have been obvious to modify Igarashi et al. to store a PCA area in a recording management area, "for the benefit of calibrating power within different programs." The Office Action further indicates that it would have been obvious to place the PCA data at the beginning location of the UTOC "such as the reserve area...because PCA data has the address priority over other data so that proper read/write laser power can be set first."

However, it is respectfully submitted that the mini-disc of Igarashi et al. would already have a power calibration area, so there would not be any need for the PCA areas from a DVD of Kuroda et al. The mini-disc standard already includes a power calibration means. In addition, the mini-disc of Igarashi et al. is a magneto-optical disc with different settings for both magnetic and optical settings. The two discs are fundamentally different.

In addition, the data formats of the two discs are fundamentally different. FIG. 10 of the present application illustrates a PCA as being on the inner circumference of the disc, before even the lead-in area. Conversely, the Office Action is arguing that it would have been obvious to modify the UTOC area to include a PCA.

However the UTOC area is a user data area, as illustrated in FIG. 11. The file structure of the program area is thus set forth in the UTOC area. There would not appear to be any reason to place power calibration information in a data file management area, an addressing area. Regardless, as noted above, the mini-disc of Igarashi et al. already has a power calibration means for enforcing the proper optical and magnetic settings. Again, the PCA of Kuroda et al. is for a different type of disc compared to the mini-disc of Igarashi et al.

Thus, it would not have been obvious to place the PCA of Kuroda et al. in the UTOC area of Igarashi et al.

In addition, the Office Action has indicated that Igarashi et al. discloses the claimed recording information area. The Office Action has interpreted the claimed recording information area as the UTOC area of Igarashi et al.

However, as noted above, the PCA would not have been included in the UTOC area, especially since the UTOC area is part of the user data area and because it appears to be directed toward file management.

Similarly, the Office Action has interpreted the claimed Recording Management Area (RMA) as the part of the UTOC, "such as the management table as shown in Figs. 3 and 5." However, independent claim 16 further details that the RMA includes write protection information to control protection of data, including the entire recording medium, except for the recording information area, from unwanted writing or erasing."

The Office Action relies on the UTOC area of Igarashi et al. to disclose the claimed write protection information. However, as noted above, the individual write protection fields in Igarashi et al. set forth write protection for the particular area between the corresponding start address and end address. See FIG. 3 of Igarashi et al. Thus, the write protection/track modes indicators in the UTOC area of Igarashi et al. only relate to particular address regions of the mini-disc, there is no write protection information "to control protection of data, including the entire

recording medium, except for the recording information area, from unwanted writing or erasing." The write protection/track modes in Igarashi et al. are different from the claimed write protection information for the entire recording medium, except for the recording information area.

As noted above, the placement of the write protection information in a particular area of the recording medium was instituted to permit a medium to be removed from a case or cartridge and still maintain write protection. This type of write protection is a drive level logical write protection, compared to the physical level write protection of write protect holes in the case or cartridge, or the file level logical write protection, as in Igarashi et al., where particular files are write protected.

The UTOC of Igarashi et al. cannot be interpreted as disclosing the claimed RMA, not to mention the recording information area with the RMA and PCA.

Lastly, it is noted that the Office Action has interpreted the checking of different track modes, illustrated in FIG. 3 of Igarashi et al., as corresponding to the claimed checking of the write protection information stored in the RMA. However, as noted above, the different track modes of Igarashi et al. are pertaining to individual files or address ranges and not to "write protection information to control protection of data, including the entire recording medium, except for the recording information area.

Further, as independent claim 16 details that the write protection information is for controlling the protection of data, including the entire recording medium, except for the recording information area, and as there are areas of the UTOC, the FAT information, and other management tables, not encompassed by the different track modes indicators. Again, these only cover individual data files or ranges, compared to the entire recording medium.

Thus, for at least all the above, it is respectfully submitted that it would not have been obvious to modify Igarashi et al., in view of Kuroda et al., to disclose the presently claimed invention. In addition, as noted above, even if combined, the combination of Igarashi et al. and Kuroda et al. still would not disclose the presently claimed invention.

Therefore, for at least the above, it is respectfully requested that this rejection of claims 16-18 be withdrawn and claims 16-18 be allowed. In addition, for at least similar rationale, it is respectfully submitted that claims depending from allowable independent claim 16 are also in proper condition for allowance.

Claims 19 and 21 stand rejected under 35 USC § 103(a) as being obvious over Igarashi et al. and Kuroda et al., in view of Childers et al. This rejection is respectfully traversed.

It is respectfully submitted that claims 19 and 21 are at least allowable for their dependence from allowable independent claim 16. In addition, it is further noted that claim 21 further sets forth "prohibiting the writing of the data on the recording medium if the state of the recording medium is checked as the write protection state in said checking of the state of the recording medium, or the state of the case checked in said checking is a write protection state."

Accordingly, it is respectfully submitted that the above arguments rebutting the proffered combination of Igarashi et al. and Kuroda et al. is directly applicable herein. For at least similar rationale, it is respectfully submitted that it would not have been obvious to modify Igarashi et al. and Kuroda et al., in view of Childers et al., to disclose the presently claimed invention. In addition, as noted above, it is respectfully submitted that such a combination still would not disclose the presently claimed invention.

Therefore, it is respectfully requested that this rejection of claims 19 and 21 be withdrawn and claims 19 and 21 be allowed.

Lastly, it is respectfully submitted that new claims 23-25 are equally in allowable condition, for at least the above remarks.

New claims 23 and 24 detail that the medium meets one of the recited DVD specifications, noting that Igarashi et al. is not a DVD specification medium.

In addition, as noted above, the conventional methodology for write protecting a medium was to place the medium in a case or cartridge and use write protect holes in the case or cartridge to prevent accidental or un-permitted overwriting or erasing. See Childers et al.

Further, it was pointed out that applicants detected a problem in media that were capable of being removed from the case or cartridges, in that the media was no longer write protected. Accordingly, applicants developed the claimed write protection information being stored on the recording medium, to protect the medium when removed from the case or cartridge.

Thus, in embodiments of the present invention, when the corresponding medium is placed in a case or cartridge, the medium also includes write protection information stored in a predetermined area of the medium. As claimed in new independent claim 25, this write protection information is stored in at least one of the lead-in and lead-out areas.

As further claimed in new independent claim 25, the corresponding recording medium is also provided within the case or cartridge.

Accordingly, new independent claim 25 sets forth a recording medium, in a case or cartridge, with write protection information stored in at least one of a lead-in and lead-out areas.

Since the conventional methods of write protection of media within a case or cartridge only envisioned the use of a physical indicator on the case or cartridge, and fails to suggest also storing write protection information in one of the lead-in and lead-out areas, it is respectfully submitted that the cited prior art fails to disclose or suggest the invention of independent claim 25.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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